

Sidewalk Standards



Issue Paper Discussion
City of Rockville, Maryland

February 2, 2006

Table of Contents

I.	Introduction.....	1
II.	What Is the Right Size?.....	2
	A. Type of Pedestrian Traffic.....	2
	B. How Big Is Too Big?.....	2
	C. Relationship to Surroundings.....	2
III.	Sidewalk Design Principles.....	3
	A. S.H.O.P Mode.....	4
	B. The Shopping Mall Approach.....	5
IV.	Authority to Establish Sidewalk Widths.....	7
V.	Amendment Requirements.....	8
VI.	Recommendations.....	8
VII.	Conclusion.....	10
VIII.	Attachment.....	11



**City of Rockville
Zoning Ordinance Revision
Issue Paper**

Sidewalk Standards

I. INTRODUCTION

Sidewalks are paths, usually constructed of concrete, but can also be constructed of asphalt, brick, or stone, designed for pedestrian traffic alongside a road. The uses and amenities provided on either side of a pedestrian way of a sidewalk (from storefronts and cafes on one side to trees and benches on the other side) creates a sense of place and walking experience for the pedestrian. Recent discussions have indicated that the Mayor and Council and Planning Commission have concerns that the minimum sidewalk widths are smaller than desired. The focus of this discussion is the sidewalk standard for the proposed mixed-use districts, in particular the streets in the Town Center and the Rockville Pike Corridor. This issue paper provides background information and recommended standards to balance the various elements that typically are found between the street curb and buildings.

Sidewalk widths are generally addressed in zoning as special development procedure approvals (current PRU / CPD and proposed PDP) and subdivisions. Zoning also controls the types of uses allowed along the street (whether there is street level retail) and can require that developments also provide street amenities like street trees and benches. Other chapters of the Code of Rockville, like the Streets and Public Improvements Chapter generally control the remaining regulations of sidewalks in relation to the street they abut.

The primary purpose of this paper is to make some recommended changes to the City's current policy with regard to sidewalks in mixed-use districts. Residential sidewalks will not be discussed in this paper because they require different considerations from mixed-use sidewalks such as smaller dimensions, a lack of shopping space, and the creation of a different sense of place. These changes will affect both the zoning ordinance and other Rockville Code chapters and will include:

1. Providing new standards for various elements of a sidewalk (pedestrian walkway, storefront expansion, and tree amenities);
2. Ensuring standards vary based on location and related pedestrian traffic of different areas of the City;
3. Activating wide areas by providing for streetscaping amenities such as trees, kiosks, benches, cafés, etc.



Via at Santana Row. San Jose.

II. What Is the Right Size?

- A. **Type of Pedestrian Traffic** - In planning a sidewalk system for an area, the balance between maximizing pedestrian capacity/walking speeds and creating an experience must be evaluated. In areas near an entrance to stadiums, amusement parks, and tourist areas, very wide, unobstructed sidewalks are needed to move large volumes of pedestrians at a



30-foot wide sidewalk in San Jose, CA

relatively high speed. In outdoor shopping areas and main streets, the goal is to provide opportunities for interaction with other people, window shopping, outdoor seating, landscaping, etc.. In short, a sidewalk on a mixed-use, shopping street is designed to provide access and ambiance.

People on sidewalks in mixed-use areas are encouraged to move at a slightly slower speed and to enjoy the experience of strolling in an interesting, multi-layered environment. A person who is walking along a street trying to decide which outdoor café to eat at is seeking a different pedestrian experience than someone hurrying from their car to a discount big-box store.

- B. **How Big Is Too Big?** – There is such a thing as a sidewalk that is too big. Space that is not actively used by pedestrians should be filled by benches, restaurant seating, trees, landscaping, kiosks, art, signage, bus stops, newspaper racks, trash cans, etc. When this is done effectively, it creates a very popular environment (see photo of Santana Row on page 1). When there is insufficient pedestrian activity or financial support to provide these amenities/activities, a barren sidewalk is the result (see the photo of North Market Street in San Jose, California).

Creating a Vibrant City Center (see Attachment 11 – page 84) recommends 20-foot wide sidewalks, which encompass all aspects of a sidewalk, along pedestrian spines and primary connectors in major cities. Sidewalks that are more than 14 to 16 feet wide on secondary connectors or streets in smaller cities “can dilute the sense of vitality and activity in the core.” These areas have less pedestrian traffic and therefore do not have the same size needs as vibrant areas. Larger sizes tend to create empty and barren spaces and can limit the amount of land available.

- C. **Relationship to Surroundings** - The relationship between driving lanes, on-street parking, sidewalks, and the retail buildings is extremely important. High volume uses and streets generate interest in walking to and between stores. As a result, different areas of the City generate different amounts of sidewalk traffic. A number of mixed-use developments have been constructed in recent years that carefully evaluated these relationships to create special places to serve as destinations for people. Whether new or old, if done poorly they feel like a strip shopping center. If done well, they become one of a community’s favorite destinations.

People drive past other stores where they can get the same goods and services to go to places like Santana Row, Bethesda Row, and Mizner Park because of the attractiveness of a place that they experience. This experience is a combination of the shops, restaurants, landscaping, design of the buildings and storefronts, and the hustle-and-bustle of an urban environment. People often go to these places and decide what to do when they get there rather than just going to a store or a restaurant as the sole destination.

When a shopping street is so popular that pedestrian volumes overwhelm the street automobiles can be prohibited or restricted. Grafton Street in Dublin (see photo) and Rue Clare in Paris are two organically-developed pedestrian streets.

Construction of a new pedestrian-only street, where retail and restaurants can thrive, is extremely difficult to achieve. Although it was frequently tried in the 1970s, most of these streets now allow vehicles. The successful exceptions have been when the pedestrian-only street is located on an extremely high-volume pedestrian path serving a pedestrian destination like a university or tourist area (such as the 16th Street Mall in Denver). The retail shops along the walkway to the Metro bridge across Rockville Pike is the closest example of a pedestrian only area in the City. These shops rely primarily on lunchtime trade supplemented by breakfast and people heading home from work, but have very little evening business.



**Pedestrian-Only Street: Grafton Street,
Dublin, Ireland**

III. SIDEWALK DESIGN PRINCIPLES

The *Sidewalk Standards Survey* (Attachment 1) identified the overall width of sidewalk areas that are recommended as general design principle and in specific locations. An essential element in developing sidewalk standards is determining how much distance is needed for each of the various functions along the length of a sidewalk.

A number of principles have developed over time based on the analysis of human behavior in shopping environments. Two of these approaches will be discussed to provide insight to the appropriate widths for each function to achieve the overall goal of a successful mixed-use street. The S.H.O.P. Model was developed by Street-Works and applied in the design of mixed-use streets such as Bethesda Row, Santana Row, and the Rockville Town Square.

The second approach is a staff summary of the design principles observed in enclosed shopping malls to illustrate how the design and management of pedestrian areas responds to and influences shopper & pedestrian behavior.

A. S.H.O.P. Model

In the preparation of the design for the Town Square development, Street - Works summarized their S.H.O.P. Model. S.H.O.P. stands for Storefront Zone, Hallway Zone, Outside Zone, and Parking/Pedestrian Zone. These four zones serve as the foundation for great retail streets where people go to be “somewhere” rather than just going to buy something.

1. **Storefront Zone** – Designed to “maximize the exposure to the merchandise perpendicular to the flow of pedestrian traffic” and to create ‘friction’ (interest) along the storefront by extending the merchandise experience beyond the storefront”. In the Town Square this area was referred to as the 2-foot wide storefront expansion zone. In many cities, restaurants may “spill out” onto the sidewalk in the Storefront Zone. Depending on the nature of the merchant, there is the option to expand the building (a stoop, bay window, etc.) into this area.
2. **Hallway Zone** – The walking portion of the sidewalk. “Cafes or property line issues shouldn’t force the circulation anywhere but next to the storefront. Also, by making the pedestrian width slightly smaller than required will make the area seem busier. This zone should not be more than eight feet to achieve this effect.”
3. **Outside Zone** – The “area between the walkway and the street curb, and should be considered as an ‘outdoor’ room. This ‘room’ should feature urban amenities such as cafes, kiosks, bicycle racks, benches, planters, and fountains. Trees, however, are the most important element required here to provide a sense of enclosure, and make the space feel like a room.” Often the width of the tree pit or tree lawn controls the width of the outside zone. As a result, the effective outside zone will vary along a street’s length.
4. **Parking/Pedestrian Zone** – Offers a “safe barrier between moving traffic and the meandering pedestrian.”



In the Town Square, one side of Newmarket Street fluctuates between the Outside zone and the Parking/Pedestrian Zone. In the Town Square development, these terms were called Storefront Expansion, Pedestrian, Tree/Amenity/Outdoor Café Seating, and Buffer. The following illustrates some of the standards that were adopted by the Mayor and Council as part of the Town Center Use Permit (USE2003-00670) (see also attachment 10). The minimum total sidewalk width (excluding the Vias, Plaza and the curving sidewalk area next to the Library) ranges from 10 feet to 20 feet. The most constrained block (Beall Avenue between Maryland Avenue and MD 355) has a:

1. 2' storefront expansion zone,
2. 8' pedestrian zone,
3. no Tree/Amenity/Outdoor Café Seating Zone, and
4. no buffer zone

Maryland Avenue has a:

1. 2' storefront expansion zone,
2. 9' pedestrian zone,
3. 7' Tree/Amenity/Outdoor Café Seating Zone, and
4. 2' buffer zone

These requirements balanced the function of the sidewalk and site constraints to achieve the goals that were desired for those areas.

B. The Shopping Mall Approach

The design and management of shopping malls are geared toward creating a pleasurable shopping experience including the pedestrian experience. The success of shopping malls, from an economic perspective, is linked to their ability to create a comfortable environment. Given the nearly complete control that a shopping mall manager has over the design of the pedestrian space, these lessons have particular relevance in evaluating the appropriateness of sidewalk designs.

Very little in the design of the pedestrian areas in an enclosed shopping mall is left to chance. Successful shopping mall managers are constantly fine-tuning the pedestrian environment throughout the mall to encourage shoppers to stay longer and spend more money. The more successful stores also fine-tune the pedestrian environment every time they adjust their displays.

There is a hierarchy of pedestrian spaces in a mall that can be helpful in understanding how pedestrian spaces on city streets function. Most malls have three pedestrian areas that can be called gateways, main streets, and plazas. Each type of space has different physical characteristics that balance the number and speed of pedestrians with the adjacent uses.

1. **Gateways** – are areas where people enter the mall from the parking lots/garages but do not go directly into one of the anchor stores. These spaces are designed to be the widest pathways in a mall to accommodate high volumes of people at the highest walking speed when there are no stores located near the entrance.

Sometimes the walkway will have potted plants, kiosks, fountains, displays, etc. to fill the space if the pedestrians do not. Many grand entrances use the architectural techniques of compression and expansion as part of the transition from inside to outside. Compression is achieved through the use of shorter ceilings and entrances slightly narrower than the inside of the mall. Expansion is achieved through larger spaces. This technique is used in the Vias in the Town Square development.

2. **Main Streets** – are along the main spines of the mall or a department store. Montgomery Mall has main streets that are approximately 30 to 45 feet wide between storefronts with a lot of variety. Seating, kiosks, landscaping, displays, and information booths often occupy the center of “Main Street.” These uses help maintain a comfortable (and interesting) pedestrian environment while retaining 8 to 13 feet for unobstructed pedestrian travel adjacent to the store windows. Above the ground floor, the middle of the space is open to the ground floor. The width of the walking area allows for a mix of walking speeds (including people hanging out in the center, window shopping next to stores, people carrying bags, and people rushing to the movie theater).

In a department store, this main street concept is narrower due to lower pedestrian volumes, direct accessibility to the merchandise, and the desire to slow down walking speeds to promote purchasing. These narrower widths (5-12 feet) can be comfortable because the merchandise racks are low enough to avoid the sense of enclosure.

Regardless of location, the pedestrian areas typically vary in usable width to provide variety and are made of different materials/patterns to help define paths. In addition, the lines of sight also vary to see partial vistas of the entire length of the mall, but to also have the views be varied and interrupted by pleasing intermediate vistas.

3. **Plazas** – The large plazas at the intersection of main spines of shopping malls have, over time, been broken into smaller “rooms” that are a comfortable scale while still providing a large open space.

The spaces in a mall are closely related to those on city streets. There are two inherent differences. The first is the relationship between ceiling heights and walkway widths. Walkways in a mall need to be wider than outside to maintain a sense of openness (due to the ceiling) and to accommodate a greater proportion of pedestrians that are carrying bags. The second is the lack of a street between the sidewalks. Without a street, a pathway is created which is often greater than a street sidewalk width with the same land uses and pedestrian volumes.

The basic principles that can be transferred from shopping malls to mixed-use city streets are:

1. Provide adequately sized unobstructed pedestrian pathways to accommodate window shopping and through traffic,
2. Vary pathway widths on a frequent and irregular basis to provide visual interest and to adjust to pedestrian volumes,
3. Activate wide areas by secondary uses (kiosks, restaurant seating, gift wrapping, stroller rentals, etc.), landscaping, seating and art.

IV. AUTHORITY TO ESTABLISH SIDEWALK WIDTHS

Minimum sidewalk widths are established through a variety of mechanisms in the City of Rockville. Attachments 2 through 8 contain the various sidewalk widths required in the City. The fundamental basis for the City's ability to require private developers to construct sidewalks in the public right-of-way stems from the Subdivision Regulations and the various development approval process requirements (special development procedures). In cases where the relevant Master Plan contains no guidance for special development procedures, Chapter 21 of the City Code, Street and Public Improvements specifies the sidewalk width for each class of street. The 1994 *Synthesis of Pedestrian Policies* also provides a summary of the sidewalk policies in effect at the time.

During an individual development application review, staff works with the applicant to determine the appropriate sidewalk width based on the various requirements. As a result, there are instances where a wider sidewalk is achieved as a result of negotiation rather than a strict requirement contained in the ordinance or master plan. There are cases, like the Town Square development, where the applicant and the City both sought to achieve what will be referred to as "placemaking goals". Placemaking goals include the desire to have an active streetlife characterized by outdoor seating for restaurants, outdoor display areas, pedestrian-oriented signage, street trees, and other techniques of improving the appearance of the sidewalk area. In instances like this, the increased sidewalk width requirements were developed out of mutually-shared goals and not simply required by the City. In the absence of adopted standards that address the multiple issues that are interrelated to sidewalk width, sidewalk widths above the adopted minimums will be as a result of case-by-case negotiations.

The current Streets and Public Improvements Chapter permits the granting of waivers from the standards. Waivers were granted in the approval of the King Farm and Fallsgrove Comprehensive Planned Developments (CPDs) and in various Planned Residential Unit developments (PRUs). The location of the sidewalk (against the curb or with a planting strip), material, and tree pit dimensions are factored in the recommendation to the approving body. If additional sidewalk provisions are included in the zoning ordinance, other applicable sections of the Rockville City Code may need to be amended.

V. AMENDMENT REQUIREMENTS

The basic focus of this discussion is the sidewalk standard for the mixed-use districts, which comprises the streets in the Town Center and Rockville Pike Corridor. Standards for Rockville Pike also are included in Attachment 6. In addition, the Bikeway Master Plan also makes recommendations for shared-use paths that serve as sidewalks. The existing standards for sidewalk widths for various streets are contained in the various attachments.

If the changes increase the required right-of-way or sidewalk standards, then appropriate documents will need to be amended. The amendment procedure for each of these documents varies and the following lists the documents from least to most time intensive procedural processes.

- The *Standards and Details for Construction* is approved by the Department of Public Works,
- The *Streets and Public Improvements* Chapter of the City Code is changed by an ordinance amendment,
- The *Zoning Ordinance* which will be amended through the comprehensive zoning revision, and
- Master plans require a master plan amendment process.

VI. RECOMMENDATIONS

As shown in the Sidewalk Survey (Attachment 1), there are minimum standards for basic sidewalks such as the Americans with Disabilities Act (ADA). The ADA standards are 4-feet wide to allow use by one wheelchair and 5-feet wide to allow two wheelchairs to pass. This minimum standard is intended to be used for relatively low volume sidewalks. The City's standards exceed these minimum standards and are shown in Attachments 2 through 9. Although the City exceeds minimum standards, it is appropriate to tailor the sidewalk width to the situation. Wider sidewalks are appropriate in mixed-use areas and other locations where high pedestrian volumes are expected.

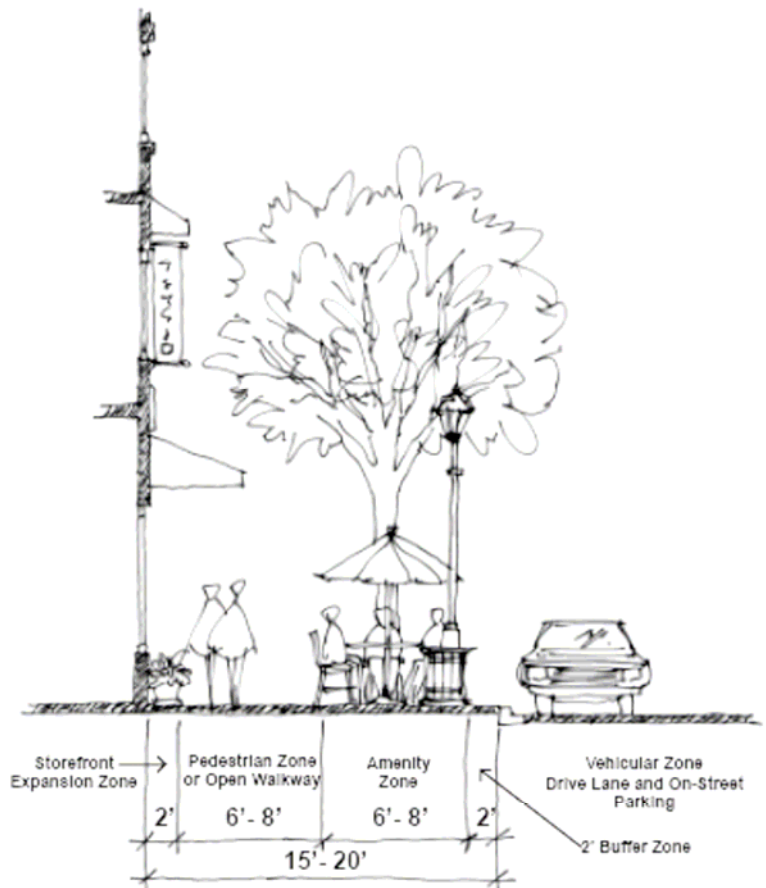
As staff evaluates revisions to sidewalk standards we recommend establishing minimum standards for each of the functional areas of the sidewalk (see Table 1 on page 10). The result is that some sidewalks may vary in width based on the uses. As a result, there may be cases where the total sidewalk width may vary along a block like older cities and in many of the new, successful mixed-use streets.

1. Staff recommends that sidewalk standards be developed and incorporated into the Zoning Ordinance revision. Where sidewalk construction is associated with development, such as for planned developments, and possibly in the Amenity

Development Option, the standards to guide approval of sidewalks within these developments should be provided in the ordinance.

2. Standards should be developed for the different street classifications for the following elements of a sidewalk in a mixed-use area: a maximum storefront expansion zone when a sidewalk is on private property in a public access easement, an unobstructed pedestrian zone, a minimum width of tree panel or tree planting opening and/or amenity zone, and a buffer zone between the street and street trees. Table 1 on page 10 provides ranges of the widths of different aspects of a sidewalk to be required in the City. These ranges will be further developed and more particularly assigned to different areas of the City. Much like the current street classification system in the City, a classification of sidewalks will be provided.
3. Standards should also be provided in the zoning ordinance to guide where utilities should be placed in relation to the sidewalk. For instance, regulations should state where a public utilities easement (PUE) can be located under a sidewalk including the minimum width and depth. There should be a minimum separation between sidewalk and underground portions of a building or parking garage built below a sidewalk (on private property).
4. Additional regulations should be included to control outdoor restaurant seating on sidewalks. To review where café seating will be located, the City should consider formalizing a licensing procedure for use of sidewalks for outdoor seating associated with restaurants. In addition, instances should be allowed where rights-of-way can be narrowed to allow private ownership of the sidewalk (with appropriate easements) to simplify use of sidewalks for restaurant seating.

Recommended standards for various sidewalk elements are summarized in the follow table. The Mixed-use districts would include both the Town Center and other mixed use districts (outside of Rockville Pike) proposed



NOTE: Dimensions will vary depending on location

throughout the City. **As the individual mixed-use districts are proposed, more particular recommendations for sidewalks will develop and these recommendations may change for each type of mixed-use district.** Also included in this table are proposals for new residential streets, although this paper did not discuss that topic. These provisions are provided to 1) begin initial discussions about residential sidewalks, and 2) for comparative purposes when compared to mixed-use districts.

Table 1: Minimum Width of Sidewalk Elements ¹					
Condition\Zone	Storefront Expansion	Pedestrian	Tree/Amenity/ Outdoor Seating ²	Buffer ³	Total
Mixed Use Districts	<i>2'-3' wide</i>	8' – 12' wide	7' – 10' wide Landscaping Zone: 5'-7' wide	0'-2' wide ⁴	20' wide minimum 25' wide maximum
MD 355 Corridor	<i>2'-3' wide</i>	8' – 10' wide	7' – 10' wide Landscaping Zone: 5'-7' wide	0'	20' wide minimum 25' wide maximum
Other Non-Residential Streets (if needed)	<i>2'-3' wide</i>	8' – 12' wide	7' – 10' wide Landscaping Zone: 5'-7' wide	0'-2' wide	20' wide minimum 25' wide maximum
New Residential Streets	N/A	4' – 8' wide	4' – 7' wide	2' wide	10' wide minimum 17' wide maximum
Notes:					
1 Minimum widths may be waived by the approving body for short portions of a sidewalk.					
2 Trees are required but other elements may be optional depending on the location.					
3 May be part of the Tree/Amenity/Outdoor Seating Element					
4 2' required where there is on-street parking and/or metered parking					

VII. CONCLUSION

The success of countless city neighborhoods across the country like Adams Morgan, Old Town Alexandria, Annapolis, and Georgetown are largely based on what can happen on the sidewalk, etc. Although deviating from the uniform standards (too numerous too list) that most jurisdictions have in place, these places are enjoyed rather than simply tolerated. All of these city neighborhoods and some of the recently created places followed design principles based on personal interaction and relationships rather than capacity issues.

Design principles based on personal interaction and relationships seek to create physical spaces in which people feel comfortable. The goal is to provide a balance – between too little and too much. Shops that are too far from the street have no presence and are not noticed by drivers. Too close, and there is not enough space for pedestrians. Too much landscaping obscures the signs of the stores. Too little can make a space feel barren. Sidewalks that have no separation (parked cars or landscape buffer) from the street feel unsafe next to fast-moving cars. In some situations, however, a lack of buffer can be successful when the sidewalk is located in richly-detailed urban environments. City neighborhoods like Alexandria, Annapolis, and many European city streets have no (or few) street trees and narrow sidewalks along the curb. Newer streets are less able to create desirable environments if the design elements discussed earlier are not provided.

If the changes in sidewalk standards increase the required right-of-way, the affected master plans will need to be changed. It may also require the creation of a new road classification to be placed into the Streets and Public Improvements Chapter of City Code. The amendment processes for these will require public outreach and the opportunity for public comment. The amendment should provide guidance with the ability to custom-tailor the various elements of a sidewalk to create the richly-varied urban spaces that are desired in the Town Center and other mixed-use areas in the City.

VIII. ATTACHMENTS:

1. September 7, 2004 Memo to Catherine Tuck Parrish on Sidewalk Standards Survey
2. Excerpts from the *Zoning Ordinance*
3. Excerpts from the *Street and Public Improvements* Chapter
4. Business District Road Standard Cross Section
5. *Town Center Master Plan* Street Section for Maryland Avenue and North Washington Street
6. *Rockville Pike Corridor Neighborhood Plan* Excerpts for Various Roads
7. *East Rockville Neighborhood Plan* discussion of sidewalk widths for North and South Stonestreet Avenue
8. *Bikeway Master Plan* Excerpts
9. *Synthesis of Pedestrian Policies* Excerpts
10. Minimum Sidewalk Widths for Town Square
11. Pedestrian Realm Chapter of *Creating a Vibrant City Center*
12. *Dining Al Fresco Expected to Energize King Street* from the Washington Post